



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/596,069	03/09/2007	John Gough Errington	27606-00001	1467
30678 7590 07/28/2009 CONNOLLY BOVE LODGE & HUTZ LLP 1875 EYE STREET, N.W. SUITE 1100 WASHINGTON, DC 20006				
EXAMINER				
EWALD, MARIA VERONICA				
ART UNIT		PAPER NUMBER		
1791				
MAIL DATE		DELIVERY MODE		
07/28/2009		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

**Application No.**

10/596,069

**Applicant(s)**

ERRINGTON ET AL.

**Examiner**

MARIA VERONICA D. EWALD

**Art Unit**

1791

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 5/06, 3/07, 1/09, 2/09, 5/09.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
- 4a) Of the above claim(s) 1-25 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 26-36 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 May 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/S508)
- Paper No(s)/Mail Date 3/9/07
- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Election/Restrictions*

13. Claims 1 – 25 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on May 28, 2009.

### *Claim Rejections - 35 USC § 102*

14. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 26 – 28 and 35 are rejected under 35 U.S.C. 102(b) as being anticipated by Soulier (U.S. 4,298,324). Soulier teaches an apparatus for the production of a foamed product with a thickness of up to approximately 1 meter including a cavity (item 11 – figure 2); a mould capable of containing a raw material that is able to be melt processed when subjected to heat and pressure treatment to form a foam (item 4 – figure 2); at least one magnetron capable of microwave heating the raw material in a microwave heating cycle (column 4, lines 20 – 25); at least one inlet through which a compressed gas passes (item 14 – figure 2; column 4, lines 62 – 65); at least one outlet for depressurization (column 6, lines 10 – 15); characterized in that the apparatus is capable of subjecting the raw material to controlled pressure increases and decreases

using compressed gas in conjunction with microwave heating; wherein the compressed gas is air (column 4, lines 62 – 65); wherein the apparatus further includes a sealed chamber within which the mould and raw material are placed, the chamber is placed inside the apparatus cavity and the chamber containing the mould and raw material is pressurized (figure 2); wherein the apparatus includes an injection point through which raw material can be inserted into the mould (item 5 – figure 2).

The Examiner notes that Applicant has claimed that the mould is capable of containing a raw material that is able to be melt processed when subjected to heat and pressure treatment to form a foam. This limitation is a recitation of intended use which describes the material placed in the mold and as such does not accord patentable weight to the apparatus because the limitation does not further delineate or distinguish the mold. Per MPEP 2115, "Expressions relating the apparatus to contents thereof during an intended operation are of no significance in determining patentability of the apparatus claim." Ex parte Thibault, 164 USPQ 666, 667 (Bd. App. 1969). Furthermore, "[i]nclusion of material or article worked upon by a structure being claimed does not impart patentability to the claims." In re Young, 75 F.2d 996, 25 USPQ 69 (CCPA 1935) (as restated in In re Otto, 312 F.2d 937, 136 USPQ 458, 459 (CCPA 1963))

### ***Claim Rejections - 35 USC § 103***

15. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over Soulier in view of Mirr, deceased, et al. (U.S. 4,134,942). Soulier teaches the characteristics previously described but does not specifically teach that the outlet is a valve.

In an apparatus to produced foamed articles, Mirr, deceased, et al. teach a mold into which a foamable material is introduced into the cavity via a port (item 48 – figure 4). An outer skin layer of the product is initially clamped onto the mold surfaces (column 4, lines 43 – 46) and heated to a softened condition. Suction is then applied to the mold through a second conduit (item 46 – figure 4), such that air is vented from the mold via a valve or port (column 4, lines 50 – 55).

Thus, it would have been obvious to one of ordinary skill in the art at the time of the Applicant's invention to configure the apparatus of Soulier with the valve of Mirr, deceased, et al. for the purpose of controlling the venting of air or introduction thereof from a mold or enclosure.

Claims 30 – 34 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Soulier in view of Apte, et al. (U.S. 5,010,220). Soulier teaches the characteristics previously described but does not teach the temperature rate or frequency as claimed, the presence of a pressure window or that the mould is substantially microwave transparent.

It is noted, however, that Soulier does teach that there is a waveguide (item 9 – figure 2) placed between the chamber and the magnetron (or source of microwave

energy). Furthermore, Soulier teaches that the mold is fabricated of a material that absorbs microwave radiation, wherein the wall portion of the mold is formed of a surface coating containing microwave-radiation-conducting carbon black (column 3, lines 25 – 32). Thus, Soulier is teaching the presence of a susceptor material as claimed.

With respect to the temperature rate, frequency and pressure window, Apte, et al. teach an isostatic press, which is subject to microwave energy heat. The use of microwave energy transmits heat directly to the body being worked upon and thus, causes little heating of the apparatus itself (column 2, lines 35 – 38). The apparatus of Apte, et al. includes a frame into which the press is disposed. A magnetron (item 19a – figure 2) transmits the microwave energy through a wave guide (item 19 – figure 2) and to the press. The cavity of the chamber may be held within a microwave-transparent container of quartz, for example, allowing the energy to fully contact the body being worked upon (column 3, lines 45 – 48). Furthermore, a conventional magnetron generates the microwaves at a frequency of 2.45 GHz or 915 Mhz, generating enough heat to raise the temperature to 2100°C in as little as 5 to 10 minutes (column 3, lines 50 – 55).

As an alternative to the embodiment of figure 2, Apte, et al. also teach that the pressure vessel may be comprised of a chamber sealed by a lid having a microwave transparent window such that microwaves are transmitted through the window (column 5, lines 55 – 60). Using this arrangement allows the inclusion of a pressure shutter behind the window which protects the window during the pressure cycle. Thus, it is not necessary to move the vessel from a heating station to a pressurizing station.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the Applicant's invention to configure the apparatus of Soulier with the temperature range and frequency of Apte, et al. because such ranges are typical of conventional magnetrons. Furthermore, it would have been obvious to one of ordinary skill in the art at the time of the Applicant's invention to configure the apparatus of Soulier with the quartz mold or pressure window of Apte, et al. for the purpose of transmitting the microwave energy through the surfaces and to the body being worked upon, thereby ensuring that the heat is fully transferred through the mold surfaces.

#### ***Information Disclosure Statement***

16. The prior art made of record though not relied upon is deemed pertinent to the state of the art and thus, has been considered.

#### ***Conclusion***

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to MARIA VERONICA D. EWALD whose telephone number is (571)272-8519. The examiner can normally be reached on M-F, 8 - 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dr. Yogendra Gupta can be reached on 571-272-1316. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MVE

/Maria Veronica D Ewald/  
Primary Examiner, Art Unit 1791